EPA United States Environmental Protection Agency

FOX RIVER CURRENT

Update from the Lower Fox River Intergovernmental Partnership

August 1998

INSIDE:

Lower Fox River and Green Bay getting closer to cleanup and restoration

Often cited as Wisconsin's hardest-working river, the Lower Fox River is part of northeast Wisconsin's Fox-Wolf River system. The river is 39 miles long, drains 6,641 square miles, and is the largest tributary to Lake Michigan in Wisconsin. The Lower Fox River, Green Bay and northern Lake Michigan provide critical habitat to countless species that are used and enjoyed by millions of people. Historically, the river has provided a vital economic backbone for the 300,000 residents in the Fox Valley.

Scientists have taken over 6,000 samples from the Lower Fox River to figure out the location and concentration of chemicals like PCBs in the river. The next step will be to decide how to get PCBs out.

Web pages and public-involvement contacts

Concern about Lower Fox part of environmental tradition for Menominee and Oneida nations

Door County meeting looks at damages to natural resources

Information repositories

United States Environmental Protection Agency

Region 5
77 W Jackson Blvd
Chicago, IL 60604

(312) 353-2000
or
(800) 621-8431
(IL, IN, MI, MN, OH, and WI only)

PCBs: a cause for concern

However, the river also harbors the effects of industrial pollution. Of particular concern are polychlorinated biphenyls (PCBs), man-made organic compounds that were primarily released during the manufacturing and recycling of carbonless copy paper between 1957 and 1971. It is estimated that 40 tons of PCBs cling to 11 million cubic yards of sediment. Currents flush about 600 pounds of PCBs into Green Bay every year.

While the river has enjoyed a partial recovery from the oxygen-depleted waters that were choking out wildlife 20 years ago, other risks hide in PCB-contaminated sediments. These chemicals pose a significant environmental and health threat because they are stored in the fatty tissue of animals and are slow to degrade in the environnment. First eaten or absorbed by small organisms that live in the sediments or water, PCBs bioaccumulate as they move up the food chain — so PCB concentration will be a thousand times higher in a perch than in the smaller animals it eats, while PCBs will concentrate a thousand times more in a walleye that feeds on perch, and so on. PCBs have been linked to developmental and neurobehavioral problems in wildlife and may pose similar health risks to people who regularly eat contaminated fish. Hmong, women of childbearing age, nursing infants, young children and the elderly are particularly at risk. Several human studies have shown a relationship between exposure to PCBs and lower IQ scores, an increased risk of cancer and immune system effects.

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Upcoming Public Meetings and Comment Periods

July 28: 60-day public comment period on EPA proposal to add the Lower Fox to the NPL begins.

August 26: SMU 56/57 public meeting explaining the dredging demonstration project, in Green Bay at the Brown County Public Library, 515 Pine St., 7-9 p.m.

September 1: Public meeting providing an overview of Fox River cleanup and restoration, focusing on the federal Natural Resource Damage Assessment at the Door Community Auditorium, on Hwy. 42 just north of downtown Fish Creek, beginning at 7 p.m.

September 1: Public Hearing on SMU 56/57 WPDES (wastewater) permit at the Brown County Library; 515 Pine Street, Green Bay, 5 p.m.

September 2: EPA Availability Sessions explaining the process for putting the Lower Fox on National Priorities Listing at Harper Hall at Lawrence University's Music Drama Center, 420 E. College Ave., Appleton, from 1 to 4 p.m. and at the Brown County Public Library, 515 Pine St., Green Bay, from 6 to 9 p.m.

Early September: An NRDA Assessment Plan Addendum explaining damage determination and the restoration planning phase will be available for public comment.

September 16: Public meeting to discuss disposal and transportation plans for PCB-contaminated sediment at the Superior Sevenmile Creek Inc. Landfill. Open house from 2 to 6 p.m., formal meeting with presentations from 7 to 9 p.m. at Seymour Town Hall, 6500 Tower Dr., Eau Claire.

September 24: Appleton League of Women Voters forum on cleanup options.

Early Fall: Update meeting on Deposit N demonstration project. Tour of on-site observation deck.

October: Listening sessions planned for citizens to share concerns and criteria for choosing cleanup options.

Fall: Drafts for Remedial Investigation and Feasibility Study are released; 60-day public comment period begins.

October/ November: Update meetings on RI/FS and Deposit 56/57 demonstration project.

Early 1999: Comprehensive update of all natural resource damage assessment findings and how they inform cleanup and restoration decisions.

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Partners, Companies, and Public Have Their Roles

The Partnership

The Intergovernmental Partnership — the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service (representing the U.S. Department of the Interior), the Menominee Indian Tribe of Wisconsin, the Oneida Tribe of Indians of Wisconsin, the Wisconsin Department of Natural Resources, and the National Oceanic and Atmospheric Administration — are working together to advance the cleanup and restoration of the Lower Fox River and Green Bay. The partners signed a Memorandum of Agreement in July 1997 to coordinate and cooperate in restoration activities, including removal and cleanup actions and the assessment of damages to natural resources. This pledge includes negotiations with parties who are potentially responsible for the release of hazardous substances to the river, bay and Lake Michigan.

The partners signed an agreement in 1997 to coordinate the cleanup and assess damages to natural resources.

Recent Activities

In September, WDNR and U.S. EPA will begin a demonstration project near Kimberly using environmental dredging techniques. The agencies will also complete drafts for the Remedial Investigation and Feasibility Study (RI/FS) by the end of the year to outline the location and concentration of pollutants, the effects of pollution on the health of wildlife and people, and the cleanup options that best balance effectiveness in protecting human health and the environment, affordability and public acceptance. U.S. FWS, NOAA, the Tribes and the State are all working to assess the natural resource damages in order to determine how best to restore the environment and compensate the public for losses not addressed by the cleanup. Lastly, U.S. EPA recently proposed to name the Lower Fox to the National Priorities List (NPL), a catalogue of the nation's most polluted sites (also known as Superfund

sites) _ a step that may not be finalized if the companies and governments involved negotiate a settlement.

The Companies

The Potentially Responsible Parties (PRPs) are Fort Howard Corp., NCR Corp., Appleton Papers, Inc., P.H. Glatfelter Co., Riverside Paper Corp., U.S. Paper Mills Corp., and Wisconsin Tissue Mills Inc. They are known collectively as the Fox River Group.

The seven companies that are potentially responsible for the pollution signed a $10 million agreement with the State in January 1997 that will allow for a demonstration cleanup project this fall at one of the most contaminated PCB deposits in the river, near the DePere Dam; the acquisition of land at Point Au Sable, the largest remaining undisturbed wetland on the eastern shore of Green Bay; and improvements to the 1,000 Island Environmental Center in Kaukauna.

Public Input

Every step along the way to cleanup includes an opportunity for public input. People on the mailing list will receive this bimonthly bulletin of news updates and schedules for public meetings and comment periods. This information is also available on the web, through local media, or by calling a public involvement contact. Stay informed and get involved — the public is part of the cleanup decision-making process.

Feedback and suggestions for this bulletin can be sent by mail to: Irene Sadowski, 101 S. Webster St., Box 7921, Madison, WI 53707-7921 or by email at sadowi@dnr.state.wi.

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Wisconsin DNR Examining Contamination and How to Stop It

The Remedial Investigation and Feasibility Study (RI/FS) that WDNR is preparing will evaluate contamination in the Lower Fox River and lower Green Bay and assess cleanup options. Included in the RI/FS is a Risk Assessment (RA) that examines the probability of health problems in people and wildlife because of exposure to chemical contaminants.

Very little new research was needed to begin the RI/FS because so much information already existed about the chemical, physical and biological properties of the river and bay. Compiling data in one place and evaluating it for its usefulness have been enormous and essential tasks for developing the RI/FS by the end of the year. Since 1989, WDNR and other federal and university researchers have taken over 6,000 samples of water, sediment, air, and fish and bird tissue. Samples were then tested for chemical characteristics like PCB concentration and physical characteristics like the grain size of sediments. Each of these tests is referred to as a data point. Remediation Technologies, Inc., hired by WDNR in March 1998 to do the RI/FS, has compiled over 100,000 data points for the Lower Fox River, with 130,000 data points expected.

This sediment core sample was sent to a lab and tested for its chemical and physical properties.

The first step of the RA, called the Screening Level Risk Assessment (SLRA), has been completed. The SLRA took a conservative look at the "universe" of chemicals in the Lower Fox River and then prioritized contaminants according to the risks they pose to the health of humans and wildlife. The risk calculation for PCBs showed a health risk from 100 to 1,000 times greater than from any other chemical. Other contaminants that are being evaluated include dioxin, furan, DDT, dieldrin, arsenic, lead and mercury.

The SLRA also determined key human and ecological groups exposed to contamination and how they get exposed. Scientists reviewed the potential threat of exposure from direct contact, inhalation and ingestion. They discovered that eating fish posed the greatest risk. As fish consumption increases by mass or frequency, so does the risk to humans and ecological groups, including invertebrates that live in the sediment or water, fish, and fish-eating wildlife such as birds or mink. WDNR and their consultants reviewed data from 16 individual and comprehensive studies that included over 10,000 individual data points to come to these conclusions. The Baseline Risk Assessment (BLRA) will take information from the SLRA and further determine how these contaminants may influence people's health and ecological resources.

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Walleye, Water Quality and the Work Ahead

Fish advisories that explain which fish species are safe to eat, how frequently they may be eaten, and how best to prepare them have been in place on the Lower Fox River since 1976. Without any help, it will take about 150 years before walleye caught from these waters would be safe to eat once a week. Active cleanup of the river could shrink this time frame to 10 years and make the river and lower Green Bay meet current water quality standards for the Great Lakes. While PCB concentrations are not increasing in the Lower Fox and Green Bay, they continue to exceed established water quality criteria by 10 to more than 800 times.

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Wisconsin DNR Draft Describes PCB Discharges

In June, WDNR released a draft technical memorandum, the "Fox River and Green Bay PCB Fate and Transport Model Evaluation," detailing the "Compilation and Estimation of Historical Discharges of Total Suspended Solids and PCB from Fox River Point Sources." This document estimates historical releases of PCBs from all point sources along the Lower Fox River for the purposes of conducting a model "hindcast." The opposite of a forecast, a hindcast tests how well a model can predict future conditions by seeing how accurately it reflects the past. The department expects to issue a revised draft in the next few weeks in response to new information provided by the paper mills along the Fox River.

This report describes who discharged PCBs into the Lower Fox River, in what amounts PCBs were discharged over time, and from what processes. The Fox River Group will use this information to conduct a hindcast from 1954, when commercial production of carbonless copy paper began, until 1988. Evaluation of modeling techniques was part of the cooperative agreement between the state and paper mills that was signed in January 1997. The Green Bay Mass Balance Study, conducted by WDNR and U.S. EPA between 1989 and 1995, provided the data to develop a model to forecast where and how PCBs will move in the Lower Fox and Green Bay for the next hundred years.

The WDNR report identified three main paths by which PCBs entered the Lower Fox River during the production and recycling of carbonless copy paper. During production, plain paper was coated with an emulsion containing PCBs. Coating that did not make it onto paper ended up in wastewater that was released into the river. The second major path came from the recycling of "broke" _ the paper trimmed to make a clean edge on rolls, for example, or paper that did not meet standards for use as carbonless copy paper. Broke was bought by companies that had the capacity to de-ink and repulp the paper in order to be used in other paper products. Again, some of the PCBs went into the paper product, while the rest was discharged with wastewater in to the river. The majority of PCBs came from these two sources. Post-consumer recycling also contributed PCBs as office paper waste went through the de-inking process _ about 10 percent of the estimated 418,000-825,000 pounds of PCBs released into the river between 1953 and 1971. The amount of PCBs entering the river dropped dramatically after 1971, when paper mills voluntarily stopped using PCBs because of increasing environmental concerns.

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How Did PCBs Get Into Paper?

Carbonless copy paper was invented in 1950 by AT&T Global Solutions Co., formerly National Cash Register Co., in the quest to develop paper for cash registers that would not need an ink ribbon. Colorless dye was dissolved in PCBs and enclosed in waxy microcapsules that could be coated onto the back of plain paper as an emulsion. A reactive coating without PCBs was sprayed on the front of a second piece of paper. Applying pressure on the first page would rupture the microcapsules and leave an image on the second page. Appleton Coated Papers (now merged with Appleton Papers) bought the PCB emulsion from NCR. It was one of very few companies with the equipment to handle the special coating methods necessary to keep the capsules intact during production. The finished product was then bought back by NCR for distribution and sale. By 1971, 7.5 percent of all office forms produced up to that point were made with carbonless copy paper.

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EPA Proposes to Put Lower Fox River on NPL

The Superfund law requires that U.S. EPA maintain a list, known as the National Priorities List, of uncontrolled hazardous waste sites that warrant further investigation to assess the nature and extent of environmental and public health risks and to determine any necessary cleanup actions. Cleanups may be funded by U.S. EPA or by those determined to be potentially responsible for site contamination. U.S. EPA will try to recover costs from the potentially responsible parties if it pays for the intitial cleanup.

New sites are regularly added to the NPL. This is done via a proposed rule printed in the Federal Register. Proposed Rule Number 25 appeared in the July 28, 1998 Federal Register. This rule proposed that 14 new sites be added to the NPL — 11 to the general Superfund section and three to the federal facilities section. Among those included in the general Superfund section was the Fox River NRDA/PCB Releases site.

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Public Comment Period for NPL Proposal Continues

To review the information used by U.S. EPA to support the proposed listing, visit one of the five information repositories, listed on page 8, that U.S. EPA is maintaining in the Fox Valley. The documents will also be available for review at U.S. EPA Region 5, Records Center, 77 W. Jackson Boulevard, Chicago, Illinois. In addition, the *EPA - National Priorities List for Uncontrolled Hazardous Waste Sites, Proposed Rule No. 25* can be read online.

Comments (an original and three copies) regarding the proposed listings must be postmarked by Sept. 28, 1998 and sent to Docket Coordinator, Headquarters, U.S. EPA, CERCLA Docket Office, (Mail Code 5201G), 401M Street SW, Washington, DC 20460.

For express mail, send to Docket Coordinator, Headquarters, U.S. EPA,CERCLA Docket Office, 1235 Jefferson Davis Highway, Crystal Gateway #1, First Floor, Arlington, VA 22202.

Comments may also e-mailed in ASCII format only to superfund.docket@epa.gov. E-mailed comments must be followed up by an original and three copies by mail or express mail.

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For More Information ...

Call a public-involvement contact:

- Bri Bill, U.S. EPA, at (312) 353-6646
- Verna deLeon, Menominee Nation, at (715) 799-5218
- Joan Guilfoyle, U.S. FWS, at (612) 713-5311
- Jeff House, Oneida Nation, at (920) 490-2452
- Erika Kluetmeier, WDNR, at (608) 266-2172
- John Lindsay, NOAA, at (206) 526-4560

Check out the following web pages:

- U.S. Environmental Protection Agency
  http://www.epa.gov/region5/foxriver/

- Wisconsin Department of Natural Resources
  http://www.dnr.state.wi.us/org/water/wm/lowerfox/

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Concern About Lower Fox Part of Environmental Tradition for Menominee and Oneida Nations

The Oneida and Menominee Nations are equally concerned about the health of the Lower Fox River because of the impact the Fox River has on the entire ecosystem throughout Northeastern Wisconsin. The tribes have been invited to be members of the Fox River Intergovernmental Partnership and have agreed to participate in order to initiate the cleanup process.

Each tribe has demonstrated that the environment is a priority. The Menominee are the longest-known residents of the State of Wisconsin and maintain the most successful sustainable-yield forest in the country. They are world-renowned and respected by Native American nations across the country for their environmental practices. The Menominee Tribe has a long-established forestry department that uses state-of-the-art technology in forest management, an environmental services department, and a wildlife conservation department that work cooperatively to manage the pristine quality of the resources on their reservation. Many scientists and environmentalists from around the world visit their reservation each year to learn from the Menominee about forest, land and water management.
The Oneida implemented the Duck Creek Priority Watershed Project in 1995. They have developed a comprehensive Environmental Department that uses a variety of skills in environmental testing and planning. One function of the department is to test and monitor water quality and the impacts from development. Oneida's position regarding development is one of responsibility. Certainly, the need for growth and the subsequent development is vital for a healthy economy. But at the same time, Oneida carefully considers the impacts of development on the environment.

Each tribe knows the value of maintaining balance between humans and their environment. When that balance is upset, people must work hard to even the balance.

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Door County Meeting Looks at Damages to Natural Resources

On September 1, 1998 the Intergovernmental Partners will sponsor a public meeting at the Door Community Auditorium in Fish Creek on the Door Peninsula. U.S. FWS will discuss the connection between Fox River pollution and Door Peninsula/Green Bay natural resource injuries and economic damages.

Presenters will describe the evidence for:

1. Paper mill releases of PCBs into the Fox River;
2. Movement of PCBs from the Fox River to Green Bay and Lake Michigan;
3. PCB-caused injuries to water, lands, fish, and wildlife in and around the Door Peninsula and Green Bay;
4. Economic impacts to the public; and
5. Restoration projects needed to fix the problem.

In addition, U.S. FWS will describe how a legal process called Natural Resource Damage Assessment will inform public and governmental decisions on how to stop the flow of PCBs from the Fox River and restore public natural resources in and around Green Bay and Door Peninsula. Updates on the Superfund process, tribal efforts, and state efforts on the Fox River will also be provided at the meeting.

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Review Technical Reports, Summary Fact Sheets, and Other Information at the Information Repositories

WDNR sends information to all the following locations except the U.S. FWS Reading Room. U.S. EPA sends documents to the locations marked in green.

Appleton Public Library
225 N. Oneida St.
Appleton, WI 54911-4780
920-832-6170

Brown County Library
515 Pine St.
Green Bay, WI 54301
920-448-4381, ext. 394

DePere Public Library
380 Main Ave.
DePere, WI 54115
920-448-4407

Kaukauna Public Library
111 Main Ave.
Kaukauna, WI 54130
920-766-6340

Kimberly Public Library
515 W. Kimberly Ave.
Kimberly, WI 54136
920-788-7515

Little Chute Public Library
625 Grand Ave.
Little Chute, WI 54140
920-788-7825

Menasha Public Library
440 1st St.
Menasha, WI 54952
920-751-5170

Neenah Public Library
P.O. Box 569
Neenah, WI 54957
920-751-4722

Oshkosh Public Library
106 Washington Ave.
Oshkosh, WI
920-236-5200

U.S. Fish and Wildlife Service Reading Room
1015 Challenger Court
Green Bay, WI
To make an appointment contact: Joe Moiot at (920) 465-7408

Wrightstown Public Library
529 Main St.
Wrightstown, WI 54180
920-532-4011

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